

CORRESPONDENCE.

[Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.]

A Neglected Branch of Ornithology.

TO THE EDITORS OF THE AUK:—

Dear Sirs,—Of all the characteristics of birds, in the popular estimation, there is probably no one which attracts more general attention than their covering of feathers, and indeed it is one of the most useful distinctions in defining the class. In view of this fact it seems strange that comparatively little has yet been published concerning the distribution of the feathers on the body, and undoubtedly the majority of people still suppose that feathers are as evenly distributed over the skin as is the hair of mammals. Scientists have of course for a long time known and spoken of 'pterylæ' and 'apteria,' and for fifty years at least these have been not uncommon terms. But since the publication in 1840, of Nitzsch's 'System der Pterylographie.' there has been very slight advance in this branch of ornithology, and the little that has been published on the subject has been of a very fragmentary sort. Meanwhile the structure, development and growth of feathers has received considerable attention, especially of late years some important work has been done, and the number, form and comparative length of both remiges and rectrices have been carefully noted and much use has been made of such facts in the classification of birds. The presence of crests, ruffs, plumes and exceptional feathers of every sort is always recorded, while in elaborated descriptions of the larger groups, the presence or absence of an aftershaft and the condition of the oil-gland is frequently mentioned. As a matter of fact, however, none of these things are really concerned when we speak of pterylography, for by that term is meant the arrangement in defined tracts of the contour feathers, and for fifty years this interesting subject has been practically neglected while all other branches of ornithology have been making rapid progress.

There are two more or less probable reasons why pterylography has been so slighted. One, which seems to be the view of Professor Newton in his article on 'Ornithology' in the *Encyclopedia Britannica*, is that the work of Nitzsch is so carefully done that it is complete and leaves little if anything to be added. The other reason for neglect lies in the impression that there is little of practical value to be obtained from further prosecution of such a very technical branch of the science. If these reasons are closely examined, however, it will be readily seen that neither is tenable. While the work which Nitzsch did was not only very carefully done, but for that time very exhaustively, when we consider that he was practically the first to enter this new field, and so like all pioneers peculiarly liable to error, the possibility that careful study will show some mistakes in his

work, is by no means small. Furthermore, the investigations in avian anatomy since 1840 have so changed our ideas of the classification of birds, new and important truths may perhaps be learned from work which he has already done. The enormous increase in the number of known species since that time is another and good reason for believing that new and important facts remain to be discovered in this interesting field.

Since then it is evident that much might be added to the work which Nitzsch has done, the feeling that the subject is of such very slight importance is probably the real cause for its neglect, but careful thought will show that this is a serious blunder, for no investigation in nature can be unimportant if it is conscientiously and zealously worked out, and the number of problems to be solved is at least as great in pterylography as in many more popular branches. The relations between the distribution of pterylae and the mode of life, or the speed of flight, or the protection of the body, or even the kind of food, have as yet been scarcely thought of, while the relative advance in spacial distribution from what are called the lower, to the higher forms may bring out new facts in the history of evolution. The generic, specific, and even sexual differences which may be found, require investigation and explanation, and these are only a few of the questions involved. But so little has yet been done in America that the mere recording in descriptions and figures of our thousand species will furnish ample occupation for a number of years yet. Thus it will be readily seen that this field of study, so sadly neglected in the past, especially invites the attention of scientists today. American ornithologists have had so much to do in making known the avifauna of our own country that they have a good excuse for having neglected the study of pterylography, but now at least the time has come when they should enter in and possess the field.

Dr. R. W. Shufeldt has already done some very interesting work in this line, and it was an article of his, published in 'The Auk' about three years ago on the pterylosis of certain western *Pici* which first awakened my interest in the subject. A perusal of Nitzsch's great work, together with some investigations of my own, aroused my enthusiasm over what seems to me a fascinating field for research, and the scarcity of literature on the subject has led me to make this appeal for an apparently neglected branch of ornithology.

HUBERT LYMAN CLARK.

Pittsburg, Pa., Dec. 13, 1892.

[Mr. Clark's letter calls attention to a most interesting and important field for research, in which as yet very little systematic work has been done, the subject proper remaining nearly where Nitzsch left it half a century ago. Many years since the present writer had the good fortune to become a student of zoölogy under the late Prof. Louis Agassiz at Cambridge, Mass., with a view to special work in ornithology. The first subject to which my attention was invited was the structure and distribution of feathers, and the classic work of Nitzsch was soon placed in my

hands. Many months during 1862 to 1865 were given to this fascinating study, with a view to the preparation and publication of a series of illustrated monographs of the pterylography of different families of birds, the Owls being the first it was proposed to treat methodically. Owing to lack of material and other circumstances the work was never completed, but my preliminary studies extended to the leading types of North American birds, and hundreds of preparations were made illustrative of the general subject. Studies of the pterylæ were made partly from freshly killed birds, but mainly from alcoholic specimens, which were found to be an excellent substitute for fresh material when the latter could not be obtained. None of the results have as yet been published, and the field is still open. It was found that good taxonomic characters were furnished by the form and character of the pterylæ, as well as by the structure of the feathers themselves. Among the Flycatchers (*Tyrannidæ*) for example, good generic characters could be found in the distribution of the feathers on the throat and top of the head—as in the number of rows of feathers and their arrangement. Reference is here made to the subject merely to strengthen Mr. Clark's "appeal for an apparently neglected branch of ornithology."—J. A. ALLEN.]

NOTES AND NEWS.

PROFESSOR JOHN STRONG NEWBERRY of Columbia College died, after a long illness, at New Haven, Conn., December 7, 1892, at the age of 70 years. He was born in Windsor, Conn., in 1822, and was graduated from Western Reserve College in 1840, and from the Cleveland Medical College in 1846. In 1855 he was appointed assistant surgeon and geologist to the Government exploring expedition under Lieut. R. S. Williamson, examining the country between the Sacramento Valley and the Columbia River. Later he accompanied Lieut. J. C. Ives in his exploration of the Colorado River, during the years 1857-58. During the War of the Rebellion he was Secretary of the United States Sanitary Commission. At the close of the war he was appointed Professor of Geology and Palæontology at Columbia College, and in 1869 became State Geologist of Ohio. For many years he was president of the Torrey Botanical Club in New York City, and of the New York Academy of Sciences. Although distinguished in early life for his medical knowledge, and later as an eminent specialist in geology and palæontology, he has left his mark upon North American ornithology, through his field work in connection with the early Government expeditions to which he was attached. His report upon the birds of the route surveyed by Lieut. Williamson was published in 1857 in Vol. VI of the Pacific Railroad Reports of Explorations and Surveys.

DR. PHILO R. HOY, the well-known physician and naturalist of Racine Wis., died suddenly at Racine, Dec. 9, 1892, at the age of 76 years. He was born in Richland County, Ohio, in 1816, was graduated from the